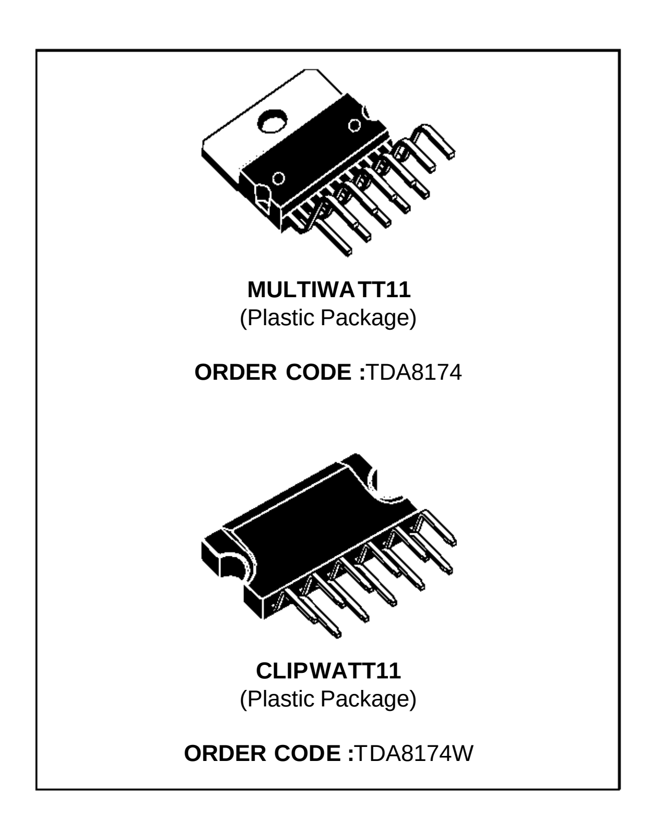


TDA8174
TDA8174W

VERTICAL DEFLECTION CIRCUIT

- RAMP GENERATOR
- INDEPENDENT AMPLITUDE ADJUSTEMENT
- BUFFER STAGE
- POWER AMPLIFIER
- FLYBACK GENERATOR
- INTERNAL REFERENCE VOLTAGE
- THERMAL PROTECTION



MULTIWATT11
(Plastic Package)

ORDER CODE : TDA8174

CLIPWATT11
(Plastic Package)

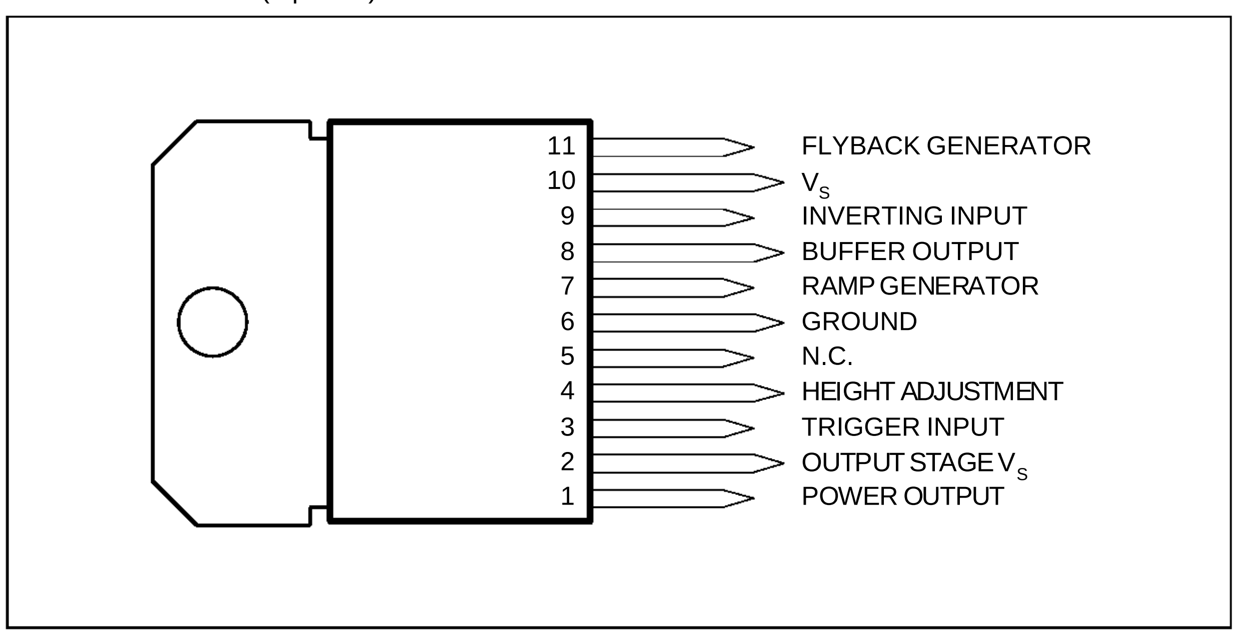
ORDER CODE : TDA8174W

DESCRIPTION

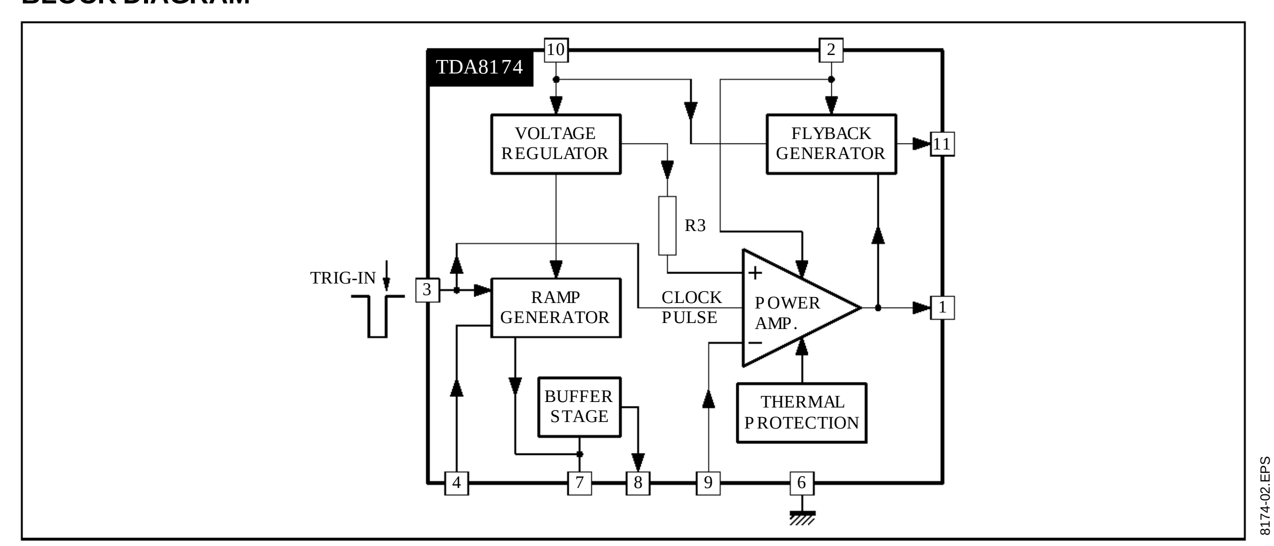
TDA8174 and TDA8174W are a monolithic integrated circuits.

It is a full performance and very efficient vertical deflection circuit intended for direct drive of a TV picture tube in Color and B & W television as well as in Monitor and Data displays.

PIN CONNECTIONS (top view)



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Supply Voltage	35	V
V_1, V_2	Flyback Peak Voltage	65	V
V_3	Trigger Input Voltage	20	V
V_9	Amplifier Input Voltage	GND, V_S	V
I_0	Output Peak-to-peak Current (non repetitive t = 2ms)	6	A
I_0	Output Peak-to-peak Current t > 10µs	4	A
I_{11}	Pin 11 DC Current at $V_1 < V_{10}$	100	mA
I_{11}	Pin 11 Peak-to-peak Current @ t_{fly} < 1.5ms	3	A
P_{tot}	Total Power Dissipation @ T_{tab} = 60°C	30	W
T_{stg}	Storage Temperature	– 40, +150	°C
T_j	Junction Temperature	0, +150	°C
T_{amb}	Ambient Temperature	0, +70	°C

8174-01.TBL

THERMAL DATA

Symbol	Parameter		Value	Unit
$R_{th\ (j\text{-}tab)}$	Thermal Resistance Junction-tab	Max.	3	°C/W
$R_{th\ (j\text{-}a)}$	Thermal Resistance Junction-ambient	Max.	40	°C/W

8174-02.TBL

DC ELECTRICAL CHARACTERISTICS (V_S = 35V ; T_{amb} = 25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_2	Pin 2 Quiescent Current	$I_1 = 0$, $I_{11} = 0$		16	36	mA
I_{10}	Pin 10 Quiescent Current	$I_1 = 0$, $I_{11} = 0$		15	30	mA
$-I_7$	Ramp Generator Bias Current	$V_7 = 0$			0.5	µA
$-I_7$	Ramp Generator Current	$V_7 = 0$, $-I_4$ = 20µA	18.5	20	21.5	µA
dI_7/I_7	Ramp Generator Linearity	V_6 = 0 to 15V, $-I_4$ = 20µA		0.2	1	%
V_1	Quiescent Output Voltage	R_a = 30kΩ, R_b = 10kΩ, V_s = 35V	17.0	17.8	18.6	V
		R_a = 6.8kΩ, R_b = 10kΩ, V_s = 15V	7.2	7.5	7.8	V
V_{1L}	Out Saturation Voltage to GND	I_1 = 0.5A		0.5	1	V
		I_1 = 1.2A		1	1.4	V
V_{1H}	Out Saturation Voltage to V_s	$-I_1$ = 0.5A		1.1	1.6	V
		$-I_1$ = 1.2A		1.6	2.2	V

8174-03.TBL

DC ELECTRICAL CHARACTERISTICS (continued

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_4	Reference Voltage	$-I_4 = 20\mu A$	6.3	6.6	6.9	V
dV_4/V_s	Reference Voltage Drift Versus V_s	V_s = 10V to 35V		1	2	mV/V
dV_4/d_{I4}	Reference Voltage Drift Versus I_4	$I_4 = 10\mu A$ to $30\mu A$		1.5	2	mV/µA
V_r	Internal Reference Voltage		4.26	4.40	4.54	V
V_{D11-10}	Diode Fwd Voltage	I_D = 1.2A		2.2	3	V
V_{D1-2}	Diode Fwd Voltage	I_D = 1.2A		2.2	3	V
G_V	Output Stage Open Loop Gain	f = 100Hz		60		dB
V_{fs}	V_{10-11} Saturation Voltage	$-I_{11}$ = 1.2A		1.5	2.5	V
V_{11}	Pin 11 Scanning Voltage	I_{11} = 20mA		1.7	3	V
V_3	Trigger Input Threshold	(see note 1)	2.6	3.0	3.4	V
I_3	Trigger Input Bias Current	$V_{IN} = V_3$- 0.2V			30	µA
t_3	Trigger Input Width	(see note 2)	20	60	Th	µS

8174-04.TBL

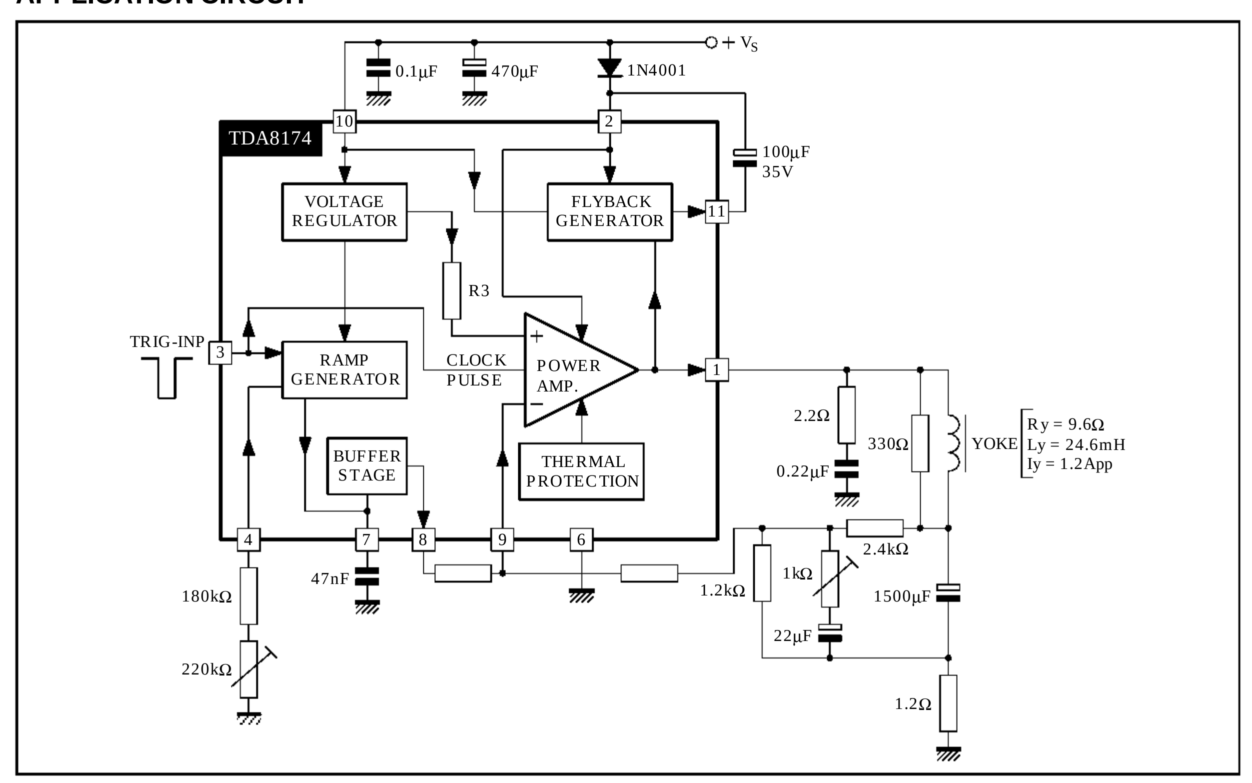
Notes : 1. The trigger input circuit can accept, with a metal option, positive and negative going input pulses.
2. $Th = \frac{1.2 \cdot T_S}{V_{PP}}$ where : T_S is the vertical period and V_{PP} is ramp amplitude at Pin7

AC ELECTRICAL CHARACTERISTICS (V_S = 24V ; T_{amb} = 25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_s	Operating Supply Voltage Range		10		30	V
I_1	Peak-to-peak Operating Current Range		0.4			A
I_s	Supply Current	$I_y = 2.4A_{pp}$		315		mA
V_1	Flyback Voltage	$I_y = 2.4A_{pp}$		51		V
V_8	Sawtooth Pedestall Voltage			1.85		V
T_{js}	Junction Temp. for Thermal Shutdown			145		°C

8174-05.TBL

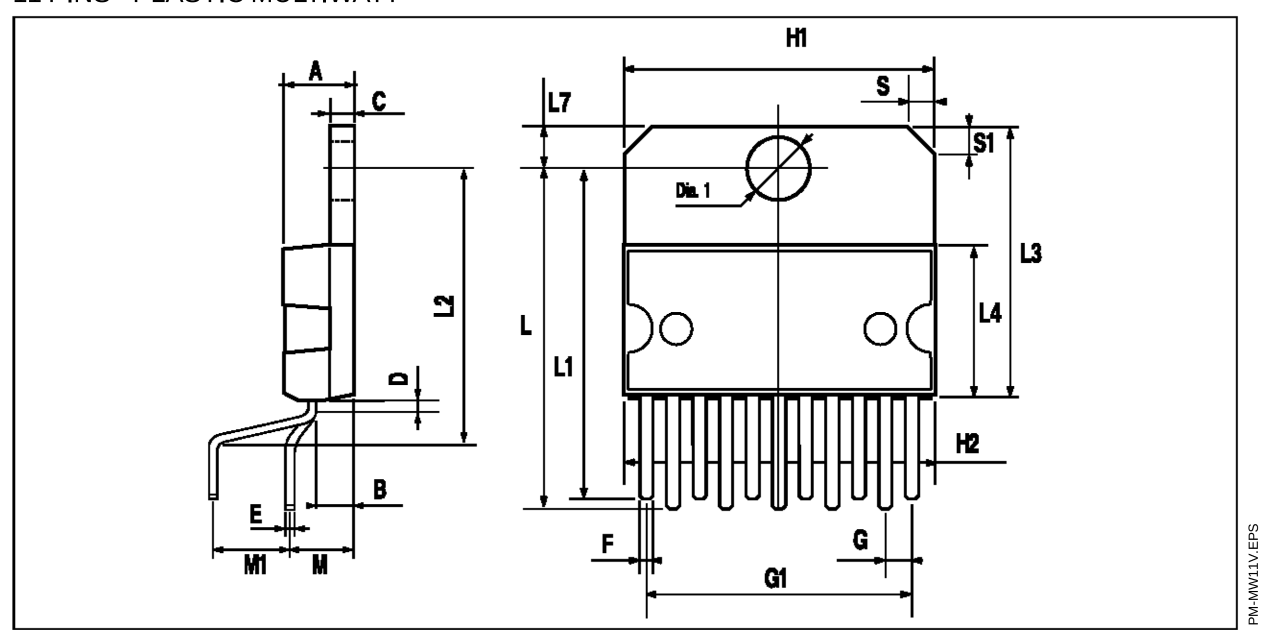
APPLICATION CIRCUIT



8174-03.EPS

PACKAGE MECHANICAL DATA

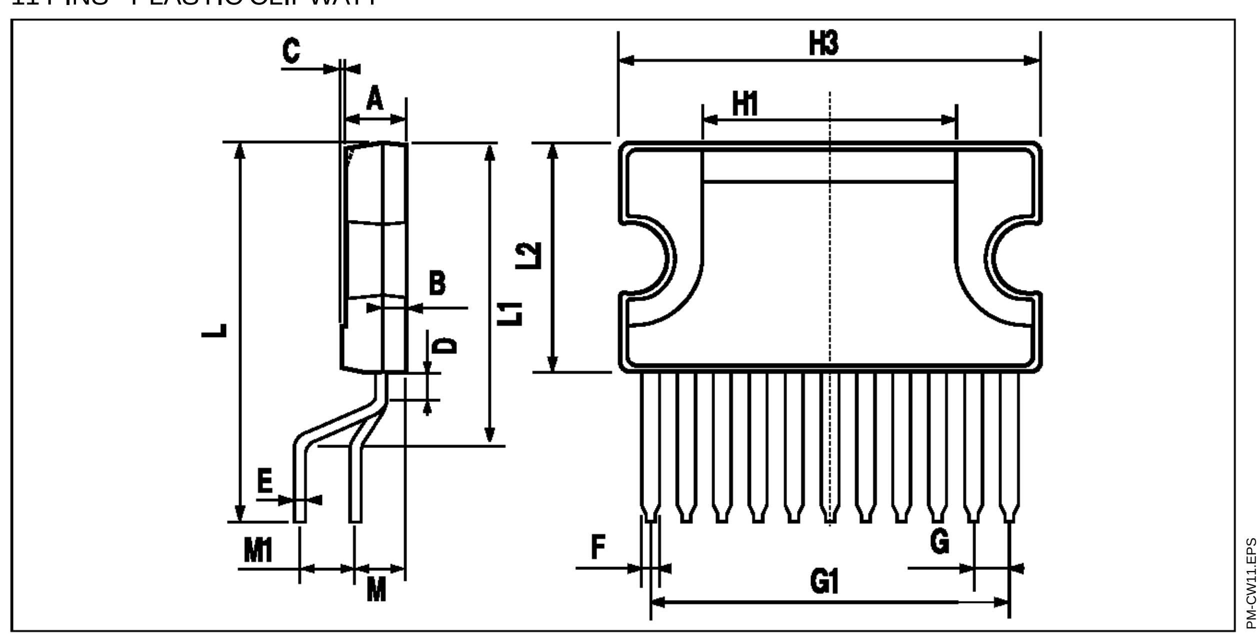
11 PINS - PLASTIC MULTIWATT



Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			5			0.197
B			2.65			0.104
C			1.6			0.063
D		1			0.039	
E	0.49		0.55	0.019		0.022
F	0.88		0.95	0.035		0.037
G	1.45	1.7	1.95	0.057	0.067	0.077
G1	16.75	17	17.25	0.659	0.669	0.679
H1	19.6			0.772		
H2			20.2			0.795
L	21.9	22.2	22.5	0.862	0.874	0.886
L1	21.7	22.1	22.5	0.854	0.87	0.886
L2	17.4		18.1	0.685		0.713
L3	17.25	17.5	17.75	0.679	0.689	0.699
L4	10.3	10.7	10.9	0.406	0.421	0.429
L7	2.65		2.9	0.104		0.114
M	4.25	4.55	4.85	0.167	0.179	0.191
M1	4.73	5.08	5.43	0.186	0.200	0.214
S	1.9		2.6	0.075		0.102
S1	1.9		2.6	0.075		0.102
Dia. 1	3.65		3.85	0.144		0.152

MW11V-TBL

PACKAGE MECHANICAL DATA
11 PINS - PLASTIC CLIPWATT



Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			3.10			0.122
B			1.10			0.04
C		0.15			0.006	
D		1.50			0.059	
E		0.52			0.02	
F		0.80			0.03	
G		1.70			0.066	
G1		17.00			0.66	
H1		12.00			0.48	
H3		20.00			0.79	
L		17.90			0.70	
L1		14.40			0.57	
L2		11.00			0.43	
M		2.54			0.1	
M1		2.54			0.1	

CW11.TBL

